

=> fil reg  
FILE 'REGISTRY' ENTERED AT 07:37:00 ON 07 MAR 2007  
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STRUCTURE FILE UPDATES: 5 MAR 2007 HIGHEST RN 924962-30-1  
DICTIONARY FILE UPDATES: 5 MAR 2007 HIGHEST RN 924962-30-1

New CAS Information Use Policies, enter HELP USAGETERMS for details.

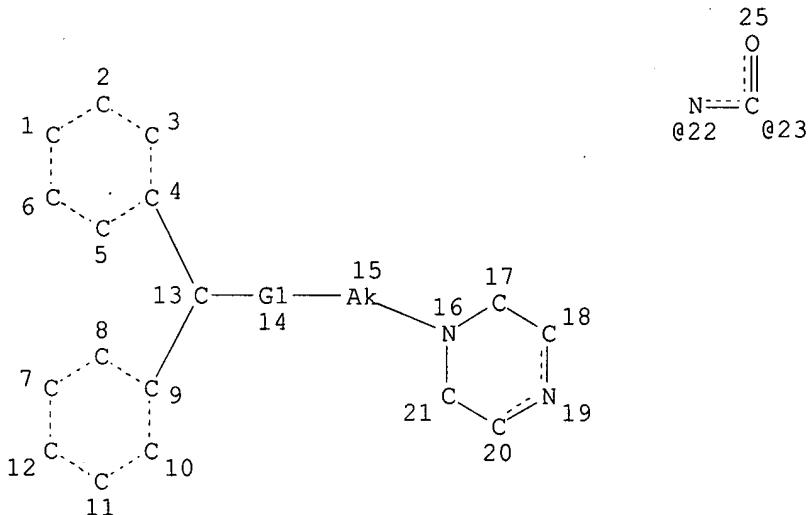
TSCA INFORMATION NOW CURRENT THROUGH December 2, 2006

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=> d sta que 123  
L15 STR



VAR G1=O/N/22-13 23-15/23-13 22-15

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC 16 4

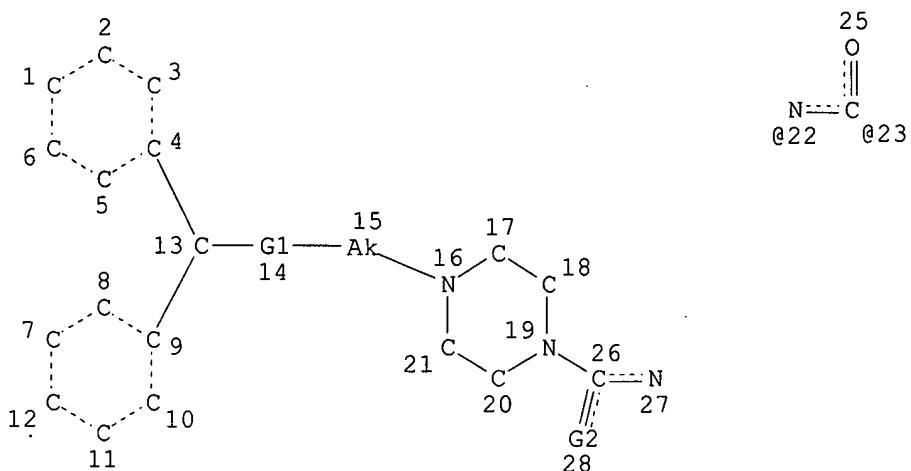
NUMBER OF NODES IS 24

STEREO ATTRIBUTES: NONE

L17 2681 SEA FILE=REGISTRY SSS FUL L15

L18

STR



VAR G1=O/N/22-13 23-15/23-13 22-15

VAR G2=O/S

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

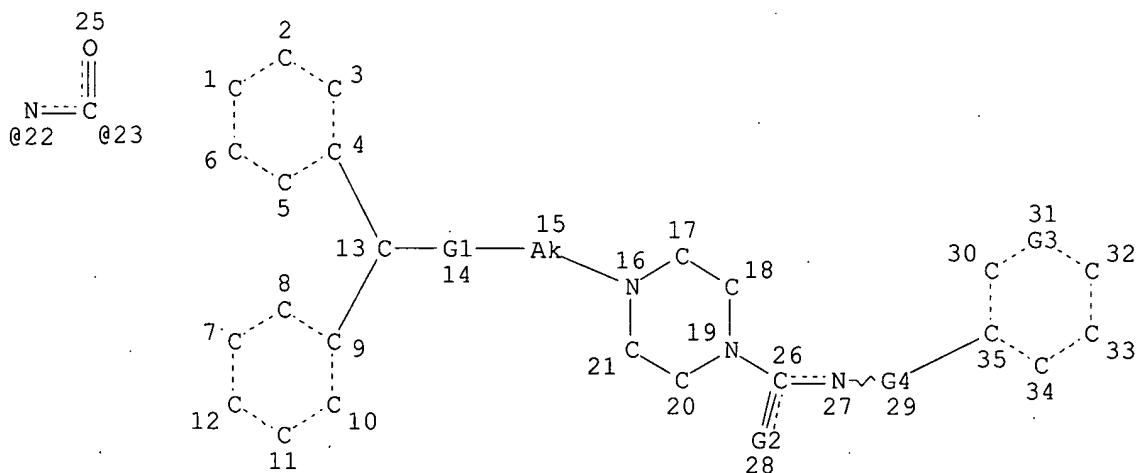
RSPEC 16 4

NUMBER OF NODES IS 27

STEREO ATTRIBUTES: NONE

L20 162 SEA FILE=REGISTRY SUB=L17 SSS FUL L18

L21 STR



VAR G1=O/N/22-13 23-15/23-13 22-15

VAR G2=O/S

VAR G3=C/N

REP G4=(1-20) A

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RSPEC 30 19 4  
NUMBER OF NODES IS 34

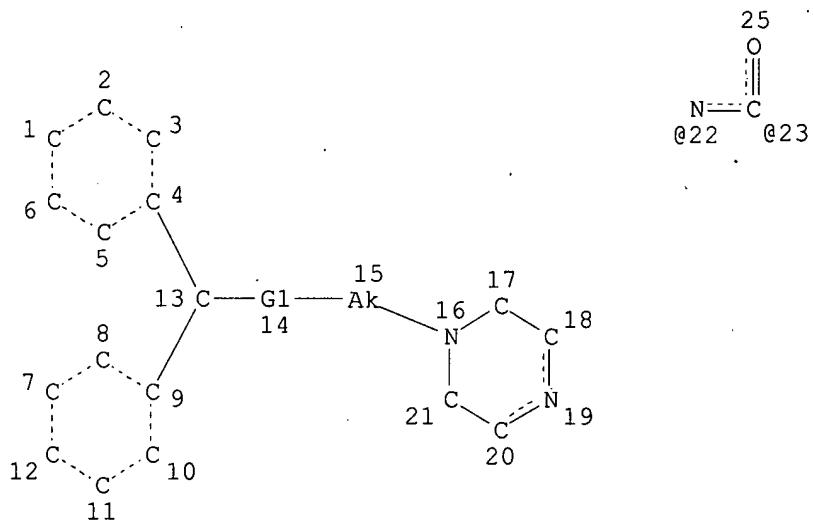
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L23 16 SEA FILE=REGISTRY SUB=L20 SSS FUL L21

100.0% PROCESSED 136 ITERATIONS  
SEARCH TIME: 00.00.01

16 ANSWERS

=> d sta que 133  
L15 STR



VAR G1=O/N/22-13 23-15/23-13 22-15

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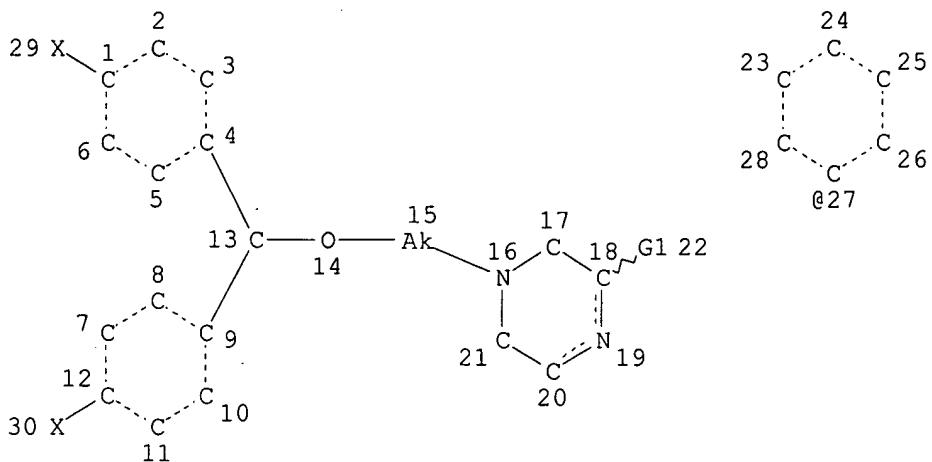
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RSPEC 16 4  
NUMBER OF NODES IS 24

## STEREO ATTRIBUTES: NONE

L17 2681 SEA FILE=REGISTRY SSS FUL L15  
L28 STR



VAR G1=H/O/27

NODE ATTRIBUTES:

CONNECT IS E2 RC AT 15

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

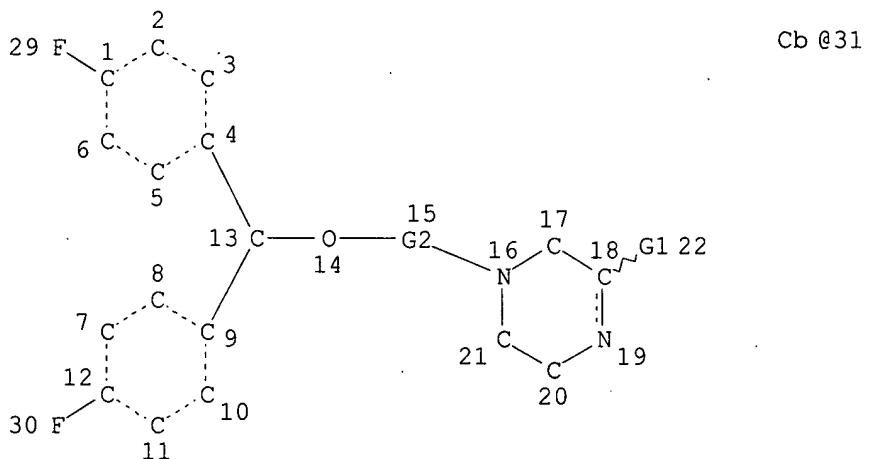
RSPEC 16 4 23

NUMBER OF NODES IS 30

STEREO ATTRIBUTES: NONE

L30 788 SEA FILE=REGISTRY SUB=L17 SSS FUL L28

L31 STR



VAR G1=H/O/31

REP G2=(4-4) CH2

NODE ATTRIBUTES:

CONNECT IS M1 RC AT 19

CONNECT IS M1 RC AT 31

DEFAULT MLEVEL IS ATOM

GGCAT IS MCY UNS AT 31

DEFAULT ECLEVEL IS LIMITED

ECOUNT IS E6 C AT 31

## GRAPH ATTRIBUTES:

RSPEC 16 4  
 NUMBER OF NODES IS 25

## STEREO ATTRIBUTES: NONE

L33 42 SEA FILE=REGISTRY SUB=L30 CSS FUL L31

100.0% PROCESSED 54 ITERATIONS  
 SEARCH TIME: 00.00.01

42 ANSWERS

=> d his

(FILE 'HOME' ENTERED AT 07:11:07 ON 07 MAR 2007)  
 SET COST OFF

FILE 'HCAPLUS' ENTERED AT 07:11:20 ON 07 MAR 2007

L1 1 S US20050222166/PN OR US2004-814118#/AP, PRN  
 E ELMALEH/AU  
 L2 137 S E8-E11  
 E SONGWOON/AU  
 L3 1 S E4  
 E SONG WOON/AU  
 L4 2 S E3  
 E CHOI/AU  
 L5 7 S E3  
 E CHOI S/AU  
 L6 482 S E3  
 L7 93 S E30  
 E CHOI SONG/AU  
 L8 10 S E3  
 E CHOI NAME/AU  
 L9 92 S E4  
 E SONG/AU  
 L10 5 S E3  
 E SONG W/AU  
 L11 97 S E3, E5  
 E SONG NAME/AU  
 L12 31 S E4  
 E FISHMAN/AU  
 L13 20 S E4, E7, E16, E17  
 SEL RN L1

FILE 'REGISTRY' ENTERED AT 07:14:21 ON 07 MAR 2007

L14 77 S E1-E77  
 L15 STR  
 L16 50 S L15  
 L17 2681 S L15 FUL  
 SAV L17 SACKEY814A/A  
 L18 STR L15  
 L19 10 S L18 SAM SUB=L17  
 L20 162 S L18 FUL SUB=L17  
 SAV L20 SACKEY814B/A  
 L21 STR L18  
 L22 2 S L21 SAM SUB=L20  
 L23 16 S L21 FUL SUB=L20  
 SAV L23 SACKEY814C/A  
 L24 12 S L23 NOT NC3-NCSC3/ES  
 L25 4 S L24 NOT 2 3 DIOXO

L26           3 S L25 NOT C35H36N4O3  
 L27           13 S L23 NOT L26  
 L28           STR L15  
 L29           50 S L28 SAM SUB=L17  
 L30           788 S L28 FUL SUB=L17  
               SAV L30 SACKEY814D/A  
 L31           STR L28  
 L32           5 S L31 CSS SAM SUB=L30  
 L33           42 S L31 CSS FUL SUB=L30  
               SAV L33 SACKEY814E/A  
 L34           18 S L33 AND (C31H36F2N2O5 OR C28H30F3N3O4S OR C29H32F2N2O2 OR C27  
 L35           24 S L33 NOT L34  
 L36           27 S L26, L35  
 L37           15 S L14 AND L36  
 L38           12 S L36 NOT L37

FILE 'HCAOLD' ENTERED AT 07:34:28 ON 07 MAR 2007  
 L39           0 S L36

FILE 'HCAPLUS' ENTERED AT 07:34:32 ON 07 MAR 2007  
 L40           2 S L36  
 L41           2 S L40 AND L1-L13  
               E SANG/AU  
 L42           2 S E3  
               E SANG 2/AU  
               E SANG W/AU  
 L43           3 S E3  
               E SANG WOON/AU  
               E SANG NAME/AU  
 L44           1 S E4  
               E SANGWOON/AU  
               E CHOI/AU  
 L45           7 S E3  
               E CHOI S/AU  
               E CHOI SANG/AU  
 L46           3 S E3  
               E CHOI SANG W/AU  
 L47           147 S E3, E4, E7  
               E CHOI SANGW/AU  
 L48           1 S E6  
 L49           1 S L40 AND L42-L48  
 L50           2 S L40, L41, L49

FILE 'USPATFULL' ENTERED AT 07:36:46 ON 07 MAR 2007  
 L51           1 S L36

FILE 'REGISTRY' ENTERED AT 07:37:00 ON 07 MAR 2007

=> fil uspatful  
 FILE 'USPATFULL' ENTERED AT 07:37:23 ON 07 MAR 2007  
 CA INDEXING COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 6 Mar 2007 (20070306/PD)  
 FILE LAST UPDATED: 6 Mar 2007 (20070306/ED)  
 HIGHEST GRANTED PATENT NUMBER: US7188369  
 HIGHEST APPLICATION PUBLICATION NUMBER: US2007050874  
 CA INDEXING IS CURRENT THROUGH 6 Mar 2007 (20070306/UPCA)  
 ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 6 Mar 2007 (20070306/PD)  
 REVISED CLASS FIELDS (/NCL) LAST RELOADED: Oct 2006  
 USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Oct 2006

=> d 151 bib abs hitstr

L51 ANSWER 1 OF 1 USPATFULL on STN  
 AN 2005:255668 USPATFULL  
 TI Diagnostic and therapeutic alkyl piperidine/piperazine compounds and process  
 IN Elmaleh, David R., Newton, MA, UNITED STATES  
 Songwoon, Choi, Sharon, MA, UNITED STATES  
 Fishman, Alan J., Boston, MA, UNITED STATES  
 PI US 2005222166 A1 20051006  
 AI US 2004-814118 A1 20040331 (10)  
 DT Utility  
 FS APPLICATION  
 LREP Paul J. Cook, 115 Pine Street, Manchester, MA, 01944, US  
 CLMN Number of Claims: 13  
 ECL Exemplary Claim: 1  
 DRWN No Drawings  
 LN.CNT 1481

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Piperidine or piperazine compounds useful for treating neurodegenerated diseases characterized by the lack of dopamine neurons activity or for imaging the dopamine neurons are provided. The compounds are characterized by the formulae: ##STR1## ##STR2## ##STR3## ##STR4## ##STR5## wherein:

n is an integer of 1 to 6; X, Y, Z.sub.1 and Z.sub.2 can be the same or different and are hydrogen, halo, haloalkyl, alkyl, aryl, (C.sub.1-C.sub.6) alkoxy, N-alkyl, (C.sub.2-C.sub.6) acyloxy, N-alkylene, --SH, --SR, wherein R is from the same group as R.sub.1 and R.sub.2 and can be the same or different than R.sub.1 and R.sub.2, amino, nitro, cyano, hydroxy, C(.dbd.O) OR.sub.6, --C(.dbd.O) NR.sub.5R.sub.4, NR.sub.3R.sub.2, or S(αO).sub.k R.sub.1 wherein .sub.k is 1 or 2, and R.sub.1 to R.sub.6 are independently hydrogen or (C.sub.1-C.sub.6) alkyl;

R.sub.1, and R.sub.2 can be the same or different and are hydrogen, (C.sub.1-C.sub.6) alkyl, hydroxyalkyl or mercaptoalkyl, --C(.dbd.O) OR.sub.1, cyano, (C.sub.1-C.sub.6) alkenyl, (C.sub.2-C.sub.6) alkynyl, or 1,2,4-oxadiazol-5-yl optionally substituted at the 3-position by Z.sub.4 wherein any (C.sub.1-C.sub.6) alky, (C.sub.1-C.sub.6) alkanoyl, (C.sub.2-C.sub.6) alkenyl or (C.sub.2-C.sub.6) alkynyl can optionally be substituted by 1, 2 or 3 Z;

R.sub.7 can be hydrogen, O or phenyl

R.sub.8 can be hydrogen, phenyl, halophenyl, nitrophenyl, pyridyl, piperonyl or sulfoxonitrophenyl

Z.sub.4 is (C.sub.1-C.sub.6) alkyl or phenyl, optionally substituted by 1, 2 or 3 Z.sub.1 W is O or S

T is amino or C.sub.1-C.sub.6 aminoalkyl A is N or C

T is C.sub.1-C.sub.6 alkyl or sulfonyl and

V is alkyl (C.sub.0-C.sub.6), alkenyl, alkynyl, haloaryl, alkyl phenol, alkyl halophenyl, and R.sub.1 or R.sub.2 as indicated above and φ is phenyl, naphthyl, thienyl or pyridinyl.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 728945-86-6P, 2-Oxo-4-[4-[bis(4-fluorophenyl)methoxy]butyl]piperazine oxalate 728945-88-8P, 2-Phenyl-4-[4-[bis(4-fluorophenyl)methoxy]butyl]piperazine oxalate 728945-90-2P, 1-Phenyl-4-[4-[bis(4-fluorophenyl)methoxy]butyl]piperazine oxalate 728945-92-4P, 1-(2-Fluorophenyl)-4-[4-[bis(4-

fluorophenyl)methoxy]butyl]piperazine oxalate **728945-94-6P**,  
 1-(4-Fluorophenyl)-4-[4-[bis(4-fluorophenyl)methoxy]butyl]piperazine  
 oxalate **728945-96-8P**, 1-(2-Chlorophenyl)-4-[4-[bis(4-  
 fluorophenyl)methoxy]butyl]piperazine oxalate **728945-98-0P**,  
 1-(3-Chlorophenyl)-4-[4-[bis(4-fluorophenyl)methoxy]butyl]piperazine  
 oxalate **728946-00-7P**, 1-(4-Chlorophenyl)-4-[4-[bis(4-  
 fluorophenyl)methoxy]butyl]piperazine oxalate **728946-08-5P**,  
 1-(4-Nitrophenyl)-4-[1-[bis(4-fluorophenyl)methoxy]butan-4-yl]piperazine  
 oxalate **728946-10-9P**, 1-[4-[Bis(4-fluorophenyl)methoxy]butyl]-4-  
 (pyridin-2-yl)piperazine oxalate **728946-16-5P**,  
 1-[4-[Bis(4-fluorophenyl)methoxy]butyl]-4-(4-  
 nitrophenylsulfonyl)piperazine oxalate **866006-23-7P**  
**866006-25-9P**

(drug candidate; preparation of diagnostic and therapeutic alkyl  
 piperidine/piperazine compds. for neuron imaging and treating  
 neurodegenerative disease)

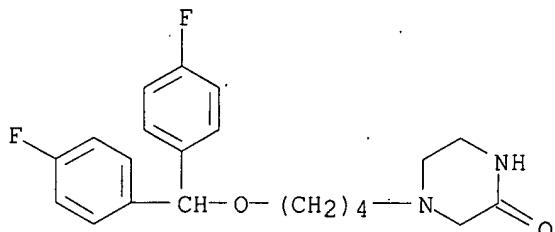
RN 728945-86-6 USPATFULL

CN Piperazinone, 4-[4-[bis(4-fluorophenyl)methoxy]butyl]-, ethanedioate (1:1)  
 (9CI) (CA INDEX NAME)

CM 1

CRN 728945-85-5

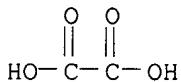
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CM 2

CRN 144-62-7

CMF C2 H2 O4



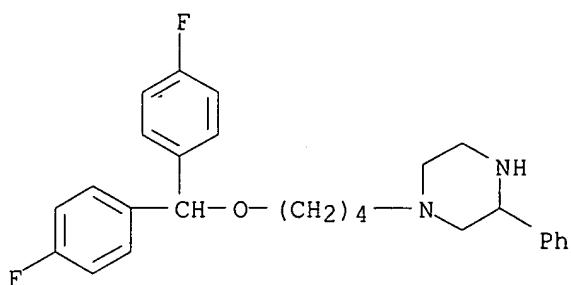
RN 728945-88-8 USPATFULL

CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-3-phenyl-,  
 ethanedioate (1:1) (9CI) (CA INDEX NAME)

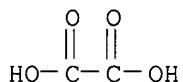
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CRN 728945-87-7

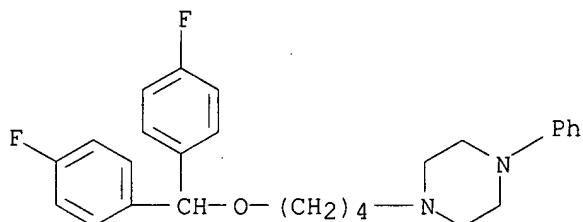
CMF C27 H30 F2 N2 O



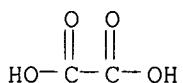
CM 2

CRN 144-62-7  
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CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-4-phenyl-, ethanedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

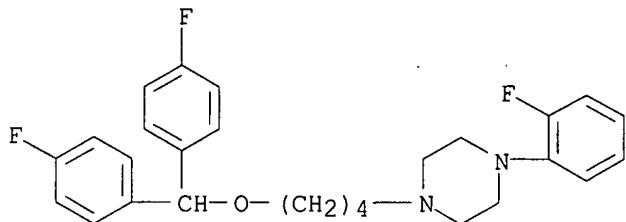
CRN 728945-89-9  
CMF C27 H30 F2 N2 O

CM 2

CRN 144-62-7  
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CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-4-(2-fluorophenyl)-, ethanedioate (1:1) (9CI) (CA INDEX NAME)

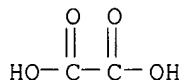
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CRN 728945-91-3  
 CMF C27 H29 F3 N2 O



CM 2

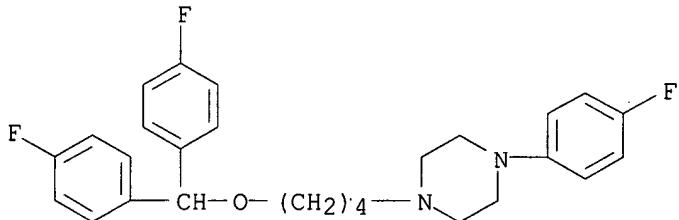
CRN 144-62-7  
 CMF C2 H2 O4



RN 728945-94-6 USPATFULL  
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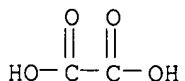
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CRN 728945-93-5  
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CM 2

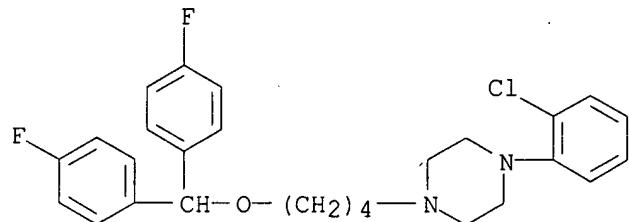
CRN 144-62-7  
 CMF C2 H2 O4



RN 728945-96-8 USPATFULL  
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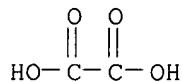
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CRN 728945-95-7  
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CM 2

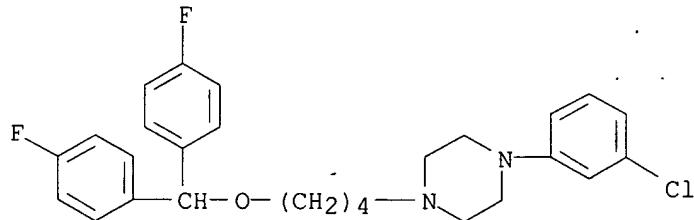
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 CMF C2 H2 O4



RN 728945-98-0 USPATFULL  
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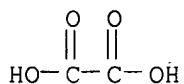
CM 1

CRN 728945-97-9  
 CMF C27 H29 Cl F2 N2 O



CM 2

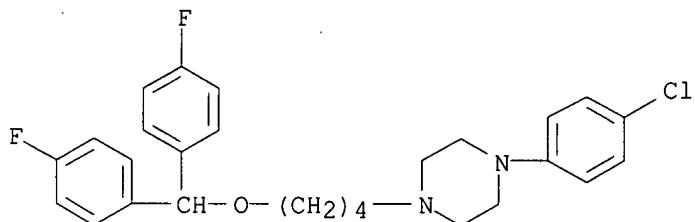
CRN 144-62-7  
 CMF C2 H2 O4



RN 728946-00-7 USPATFULL  
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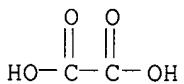
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CRN 728945-99-1  
 CMF C27 H29 Cl F2 N2 O



CM 2

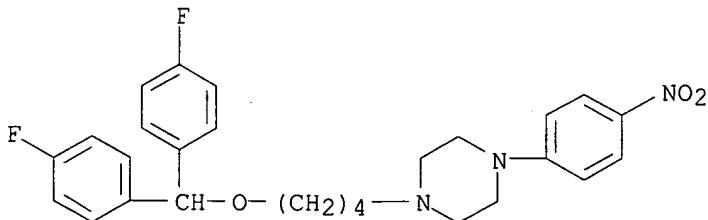
CRN 144-62-7  
 CMF C2 H2 O4



RN 728946-08-5 USPATFULL  
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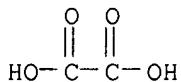
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CM 2

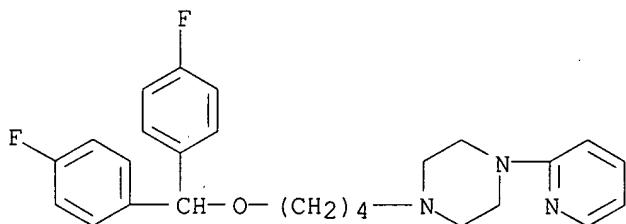
CRN 144-62-7  
CMF C2 H2 O4



RN 728946-10-9 USPATFULL  
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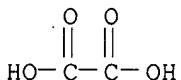
CM 1

CRN 728946-09-6  
CMF C26 H29 F2 N3 O



CM 2

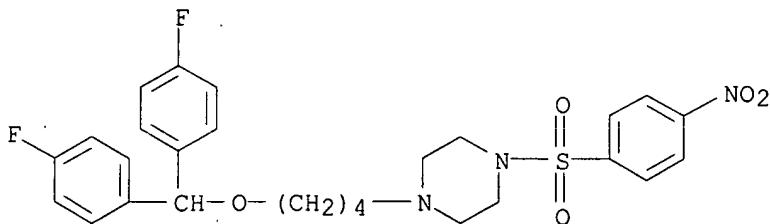
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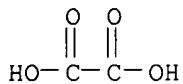
RN 728946-16-5 USPATFULL  
CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-4-[(4-nitrophenyl)sulfonyl]-, ethanedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

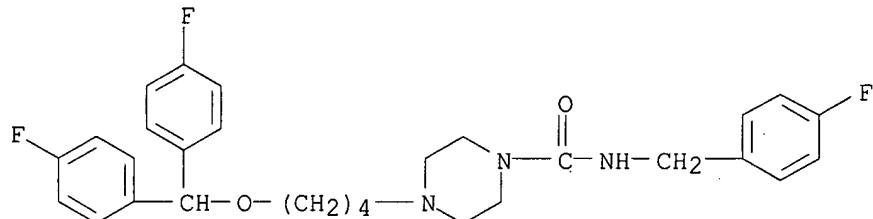
CRN 728946-15-4  
CMF C27 H29 F2 N3 O5 S



CM 2

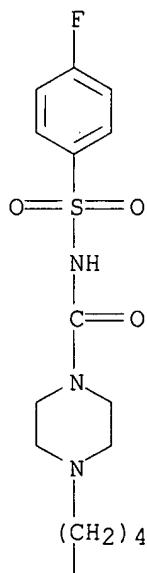
CRN 144-62-7  
CMF C2 H2 O4

RN 866006-23-7 USPATFULL  
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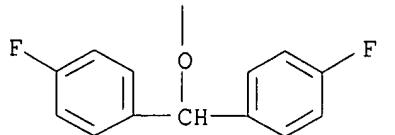


RN 866006-25-9 USPATFULL  
 CN 1-Piperazinecarboxamide, 4-[4-[bis(4-fluorophenyl)methoxy]butyl]-N-[(4-fluorophenyl)sulfonyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IT 728945-84-4P, 1-[4-[Bis(4-fluorophenyl)methoxy]butyl]piperazine dioxalate  
 (drug candidate; preparation of diagnostic and therapeutic alkyl piperidine/piperazine compds. for neuron imaging and treating neurodegenerative disease)

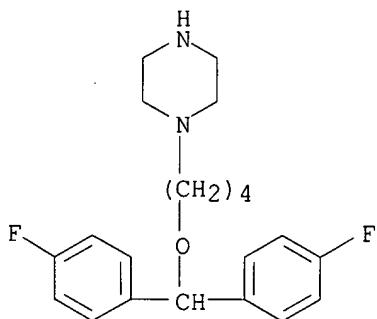
RN 728945-84-4 USPATFULL

CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-, ethanedioate (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 728945-83-3

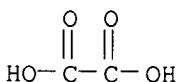
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CM 2

CRN 144-62-7

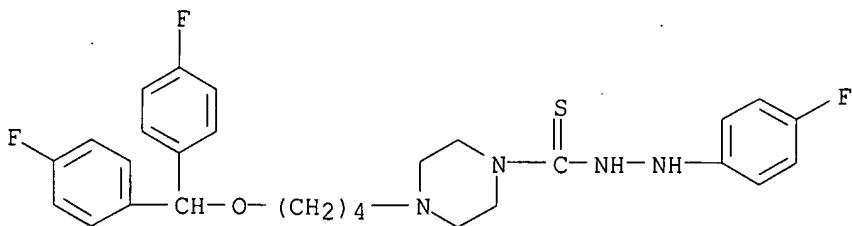
CMF C2 H2 O4



IT 866006-41-9D, complexes with technetium-99m or iodine isotopes  
 (preparation of diagnostic and therapeutic alkyl piperidine/piperazine compds. for neuron imaging and treating neurodegenerative disease)

RN 866006-41-9 USPATFULL

CN 1-Piperazinecarbothioic acid, 4-[4-[bis(4-fluorophenyl)methoxy]butyl]-, 2-(4-fluorophenyl)hydrazide (9CI) (CA INDEX NAME)



=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 07:37:39 ON 07 MAR 2007  
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FILE COVERS 1907 - 7 Mar 2007 VOL 146 ISS 11  
 FILE LAST UPDATED: 6 Mar 2007 (20070306/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d bib abs hitstr retable tot 150

L50	ANSWER 1 OF 2	HCAPLUS	COPYRIGHT 2007 ACS on STN	
AN	2005:1078248	HCAPLUS		
DN	143:360127			
TI	Preparation of diagnostic and therapeutic alkyl piperidine/piperazine compounds for neuron imaging and treating neurodegenerative disease			
IN	Elmaleh, David R.; Songwoon, Choi; Fishman, Alan J.			
PA	USA			
SO	U.S. Pat. Appl. Publ., 21 pp. CODEN: USXXCO			
DT	Patent			
LA	English			
FAN.CNT	1			
PATENT NO.		KIND	DATE	APPLICATION NO.
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PI	US 2005222166	A1	20051006	US 2004-814118
PRAI	US 2004-814118		20040331 <--	20040331 <--
OS	MARPAT 143:360127			
GI				

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Piperidine or piperazine compds. useful for treating neurodegenerative diseases characterized by the lack of dopamine neurons activity or for imaging the dopamine neurons are provided. The compds. are characterized by the formulas I-V : m = 1-6; X, Y, Z1, Z2, and Z3 = H, halo, haloalkyl, alkyl, aryl, (C1-C6) alkoxy, N-alkyl, (C2-C6) acyloxy, N-alkylene, -SH, -SR, wherein R is from the same group as R1 and R2, NH2, NO, CN, OH, COOR6, C(O)NR5R4, NR3R2, or S(O)kR1 wherein k = 1 or 2 and R1 to R6 = H or (C1-C6)alkyl; R1 and R2 = H, (C1-C6) alkyl, hydroxyalkyl or mercaptoalkyl, -COOR1, CN, (C1-C6)alkenyl, (C2-C6)alkynyl, or (un)substituted 1,2,4-oxadiazol-5-yl; R7= H, O or Ph; R8 = H, Ph, halophenyl, nitrophenyl, pyridyl, piperonyl or sulfoxonitrophenyl; W = O or S; T = NH2 or C1-C6 aminoalkyl; A = N or C; T= C1-C6 alkyl or sulfonyl; Q=NH2 or C1-C6 amino alkyl.

IT 728945-86-6P, 2-Oxo-4-[4-[bis(4-fluorophenyl)methoxy]butyl]piperazine oxalate 728945-88-8P, 2-Phenyl-4-[4-[bis(4-fluorophenyl)methoxy]butyl]piperazine oxalate 728945-90-2P, 1-Phenyl-4-[4-[bis(4-fluorophenyl)methoxy]butyl]piperazine oxalate 728945-92-4P, 1-(2-Fluorophenyl)-4-[4-[bis(4-fluorophenyl)methoxy]butyl]piperazine oxalate 728945-94-6P, 1-(4-Fluorophenyl)-4-[4-[bis(4-fluorophenyl)methoxy]butyl]piperazine oxalate 728945-96-8P, 1-(2-Chlorophenyl)-4-[4-[bis(4-fluorophenyl)methoxy]butyl]piperazine oxalate 728946-00-7P, 1-(4-Chlorophenyl)-4-[4-[bis(4-fluorophenyl)methoxy]butyl]piperazine oxalate 728946-08-5P, 1-(4-Nitrophenyl)-4-[1-[bis(4-fluorophenyl)methoxy]butan-4-yl]piperazine oxalate 728946-10-9P, 1-[4-[Bis(4-fluorophenyl)methoxy]butyl]-4-(pyridin-2-yl)piperazine oxalate 728946-16-5P, 1-[4-[Bis(4-fluorophenyl)methoxy]butyl]-4-(4-nitrophenylsulfonyl)piperazine oxalate 866006-23-7P 866006-25-9P

RL: DGN (Diagnostic use); PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug candidate; preparation of diagnostic and therapeutic alkyl piperidine/piperazine compds. for neuron imaging and treating neurodegenerative disease)

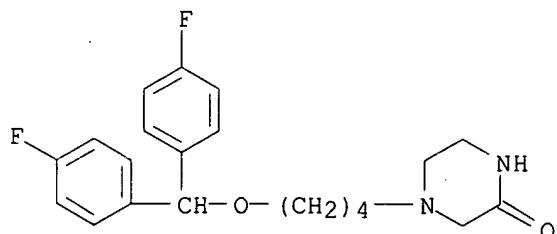
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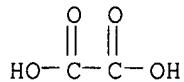
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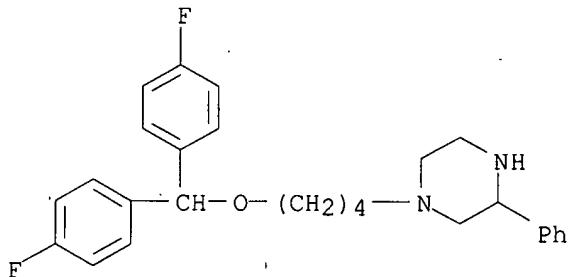
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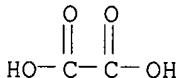
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CRN 144-62-7  
CMF C2 H2 O4RN 728945-88-8 HCPLUS  
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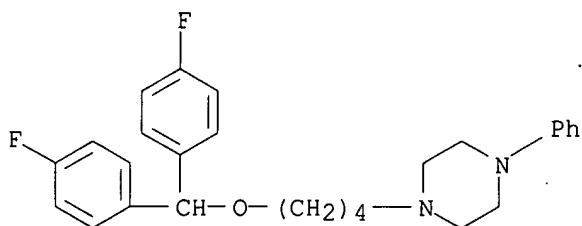
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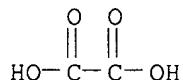
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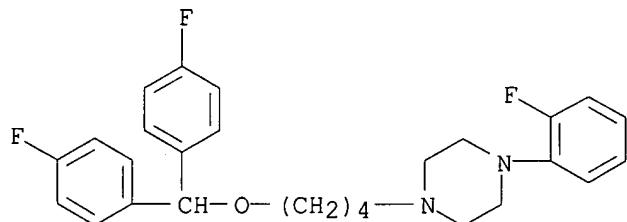
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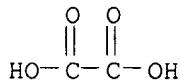
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CRN 144-62-7  
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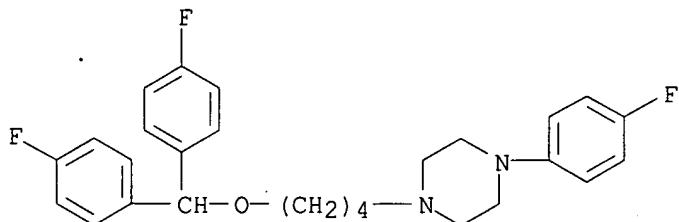
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CMF C27 H29 F3 N2 O

CM 2

CRN 144-62-7  
CMF C2 H2 O4RN 728945-94-6 HCPLUS  
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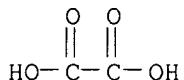
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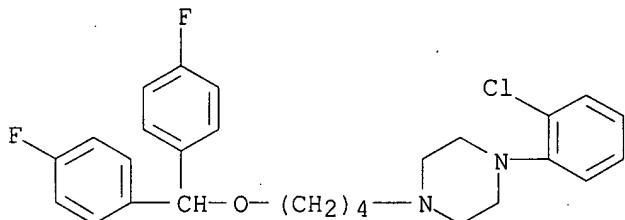
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 CMF C2 H2 O4



RN 728945-96-8 HCPLUS  
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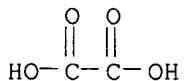
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CRN 728945-95-7  
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CM 2

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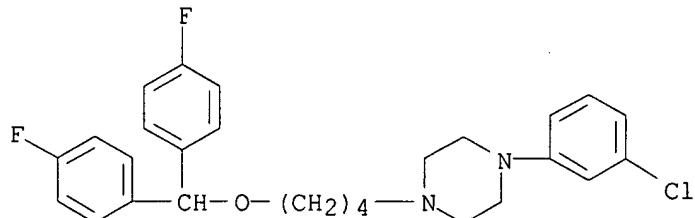
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CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-4-(3-chlorophenyl)-, ethanedioate (1:1) (9CI) (CA INDEX NAME)

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CRN 728945-97-9

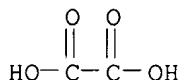
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CM 2

CRN 144-62-7

CMF C2 H2 O4



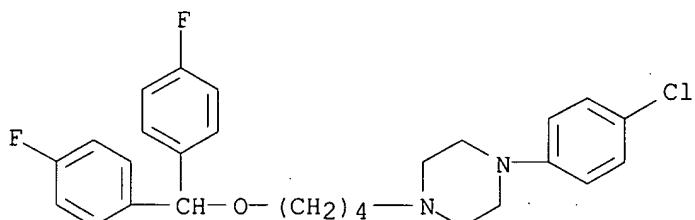
RN 728946-00-7 HCPLUS

CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-4-(4-chlorophenyl)-, ethanedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 728945-99-1

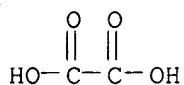
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CM 2

CRN 144-62-7

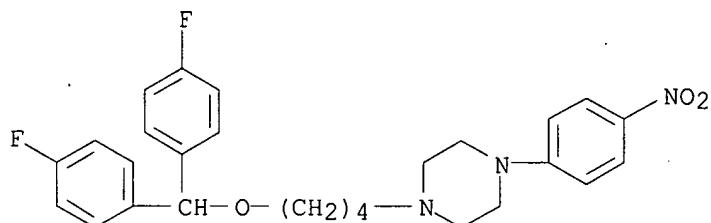
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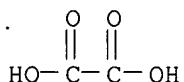
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CM 2

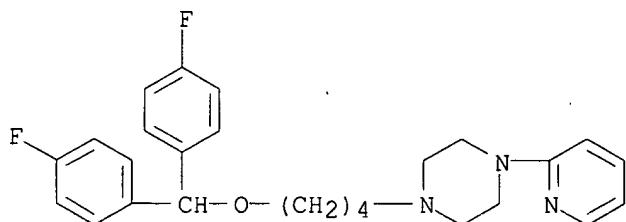
CRN 144-62-7  
 CMF C2 H2 O4



RN 728946-10-9 HCPLUS  
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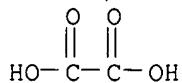
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CRN 728946-09-6  
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CM 2

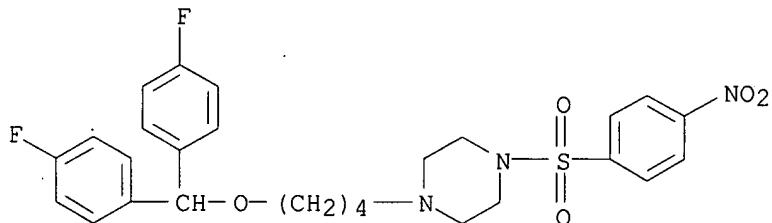
CRN 144-62-7  
 CMF C2 H2 O4



RN 728946-16-5 HCAPLUS  
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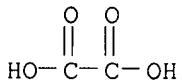
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CRN 728946-15-4  
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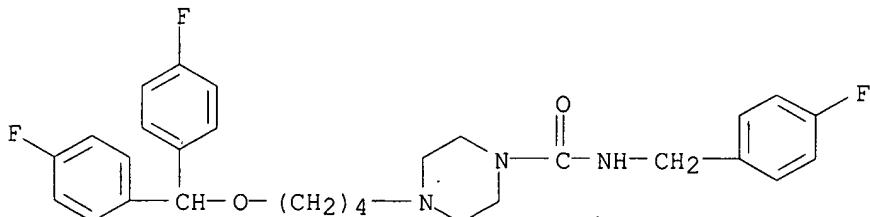


CM 2

CRN 144-62-7  
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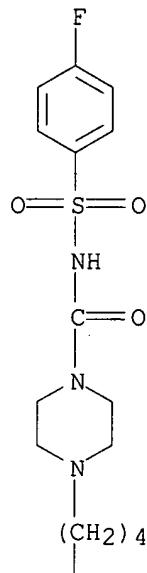


RN 866006-23-7 HCAPLUS  
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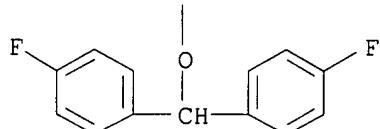


RN 866006-25-9 HCAPLUS  
 CN 1-Piperazinecarboxamide, 4-[4-[bis(4-fluorophenyl)methoxy]butyl]-N-[(4-fluorophenyl)sulfonyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IT 728945-84-4P, 1-[4-[Bis(4-fluorophenyl)methoxy]butyl]piperazine dioxalate

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(drug candidate; preparation of diagnostic and therapeutic alkyl piperidine/piperazine compds. for neuron imaging and treating neurodegenerative disease)

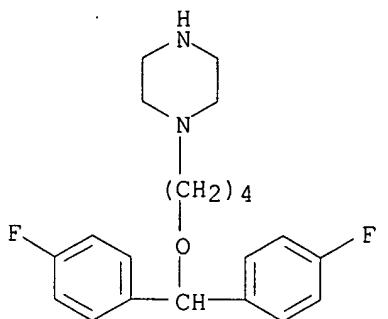
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CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-, ethanedioate (1:2) (9CI) (CA INDEX NAME)

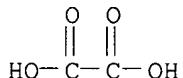
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CRN 728945-83-3

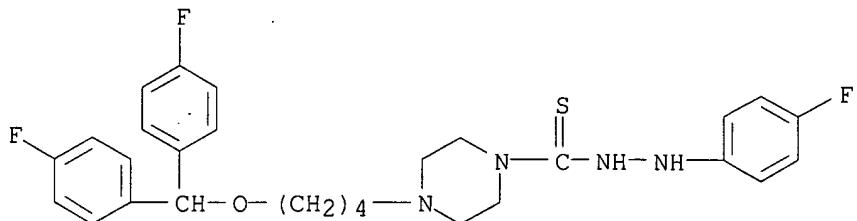
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CM 2

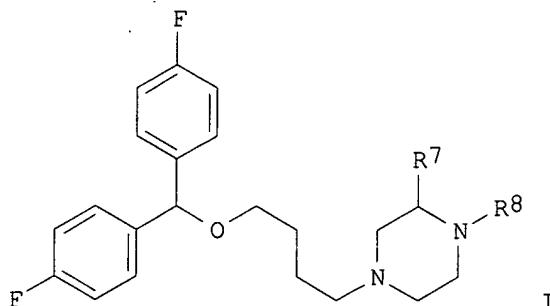
CRN 144-62-7  
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- IT 866006-41-9D, complexes with technetium-99m or iodine isotopes  
 RL: DGN (Diagnostic use); BIOL (Biological study); USES (Uses)  
 (preparation of diagnostic and therapeutic alkyl piperidine/piperazine compds. for neuron imaging and treating neurodegenerative disease)
- RN 866006-41-9 HCPLUS
- CN 1-Piperazinecarbothioic acid, 4-[4-[bis(4-fluorophenyl)methoxy]butyl]-, 2-(4-fluorophenyl)hydrazide (9CI) (CA INDEX NAME)



- L50 ANSWER 2 OF 2 HCPLUS COPYRIGHT 2007 ACS on STN  
 AN 2004:606436 HCPLUS  
 DN 141:157135  
 TI Preparation of piperidine and piperazine derivatives with dopaminergic neurotransmitter system activity for diagnostic and therapeutic uses  
 IN Elmaleh, David R.; Choi, Sangwoon; Fishman, Alan J.  
 PA The General Hospital Corporation, USA  
 SO PCT Int. Appl., 49 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2004063150	A2	20040729	WO 2003-US41731	20031231
WO 2004063150	A3	20050602		
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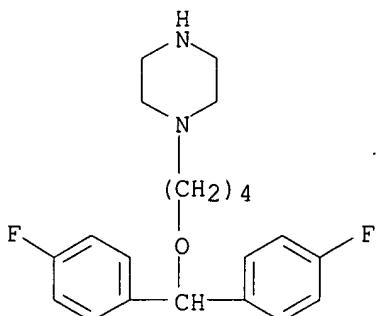
AB Piperazine derivs., such as I [R7 = H, Ph, :O; R8 = H, Ph, COMe, COPh, halophenyl, nitrophenyl, nitrophenylsulfonyl, piperonyl], were prepared for use in treating neurodegenerative diseases characterized by the lack of dopamine neurons activity or for imaging the dopamine neurons. Thus, piperazine derivative II (R7 = R8 = H) was prepared via an amination reaction with 30% yield of (F-4-C6H4)2CHO(CH2)4Cl and piperazine using K2CO3 in DMF. The prepared piperazines were assayed for binding affinities at the DA, 5-HT and NE transporters labeled with [125I]RTI-55.

IT 728945-83-3P

RL: DGN (Diagnostic use); PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses) (preparation of piperidine and piperazine derivs. with dopaminergic neurotransmitter system activity for diagnostic and therapeutic uses)

RN 728945-83-3 HCPLUS

CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]- (9CI) (CA INDEX NAME)



IT    728945-84-4P 728945-85-5P 728945-86-6P  
 728945-87-7P 728945-88-8P 728945-89-9P  
 728945-90-2P 728945-91-3P 728945-92-4P  
 728945-93-5P 728945-94-6P 728945-95-7P  
 728945-96-8P 728945-97-9P 728945-98-0P  
 728945-99-1P 728946-00-7P 728946-07-4P  
 728946-08-5P 728946-09-6P 728946-10-9P  
 728946-15-4P 728946-16-5P

RL: DGN (Diagnostic use); PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of piperidine and piperazine derivs. with dopaminergic neurotransmitter system activity for diagnostic and therapeutic uses)

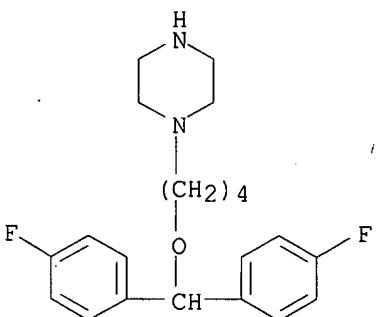
RN    728945-84-4 HCPLUS

CN    Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-, ethanedioate (1:2)  
 (9CI) (CA INDEX NAME)

CM    1

CRN    728945-83-3

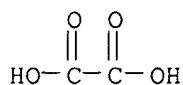
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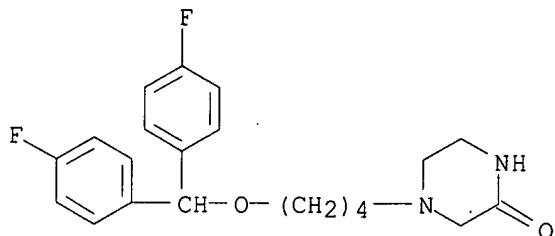
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CRN    144-62-7

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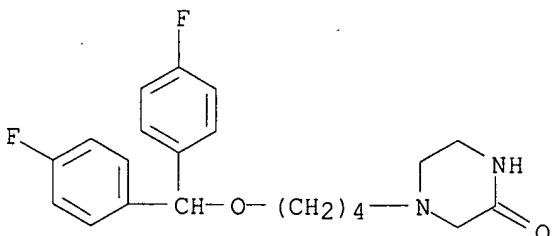
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 CN Piperazinone, 4-[4-[bis(4-fluorophenyl)methoxy]butyl]- (9CI) (CA INDEX NAME)



RN 728945-86-6 HCAPLUS  
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 (9CI) (CA INDEX NAME)

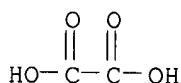
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CRN 728945-85-5  
 CMF C21 H24 F2 N2 O2

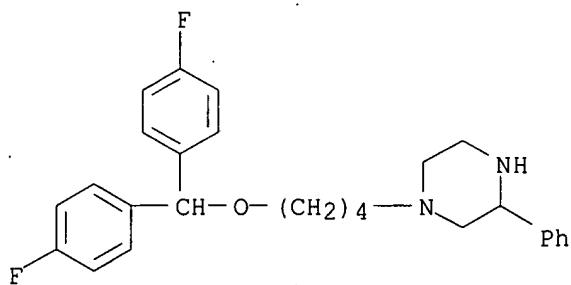


CM 2

CRN 144-62-7  
 CMF C2 H2 O4



RN 728945-87-7 HCAPLUS  
 CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-3-phenyl- (9CI) (CA INDEX NAME)



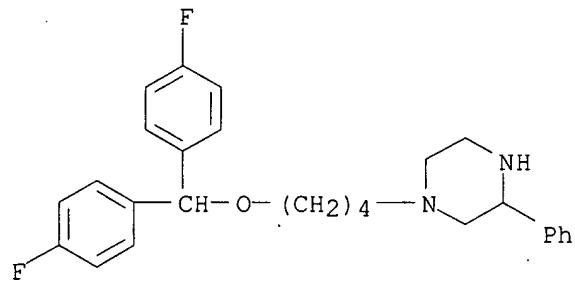
RN 728945-88-8 HCPLUS

CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-3-phenyl-, ethanedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 728945-87-7

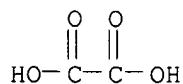
CMF C27 H30 F2 N2 O



CM 2

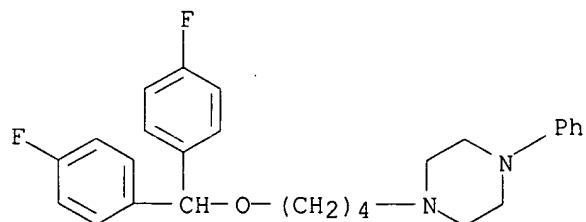
CRN 144-62-7

CMF C2 H2 O4



RN 728945-89-9 HCPLUS

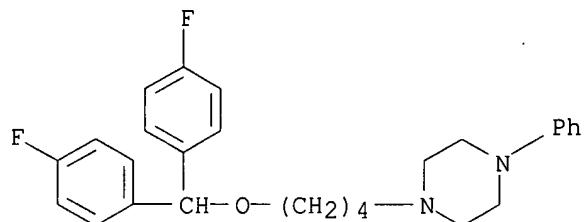
CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-4-phenyl- (9CI) (CA INDEX NAME)



RN 728945-90-2 HCAPLUS  
 CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-4-phenyl-,  
 ethanedioate (1:1) (9CI) (CA INDEX NAME)

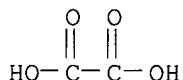
CM 1

CRN 728945-89-9  
 CMF C27 H30 F2 N2 O

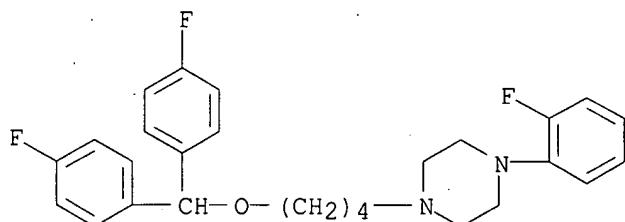


CM 2

CRN 144-62-7  
 CMF C2 H2 O4



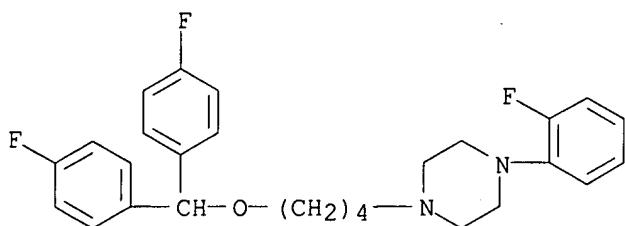
RN 728945-91-3 HCAPLUS  
 CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-4-(2-fluorophenyl)-  
 (9CI) (CA INDEX NAME)



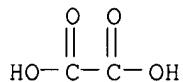
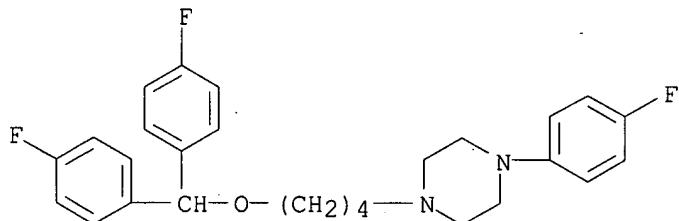
RN 728945-92-4 HCAPLUS  
 CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-4-(2-fluorophenyl)-,  
 ethanedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

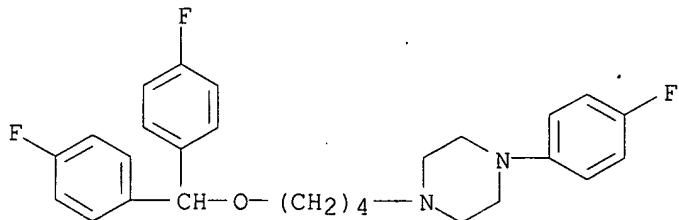
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 CMF C27 H29 F3 N2 O



CM 2

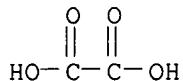
CRN 144-62-7  
CMF C2 H2 O4RN 728945-93-5 HCPLUS  
CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-4-(4-fluorophenyl)-  
(9CI) (CA INDEX NAME)RN 728945-94-6 HCPLUS  
CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-4-(4-fluorophenyl)-,  
ethanedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

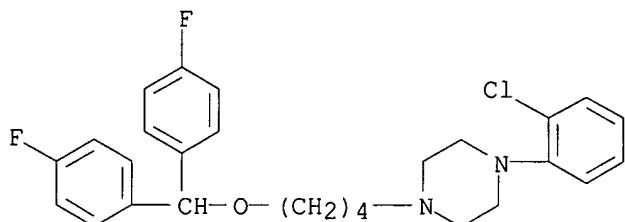
CRN 728945-93-5  
CMF C27 H29 F3 N2 O

CM 2

CRN 144-62-7  
 CMF C2 H2 O4



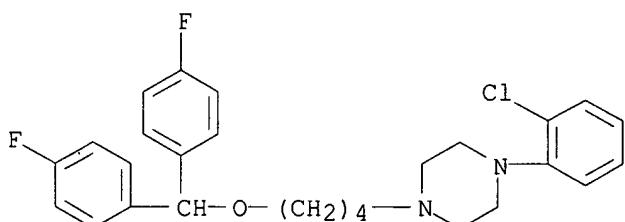
RN 728945-95-7 HCPLUS  
 CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-4-(2-chlorophenyl)-(9CI) (CA INDEX NAME)



RN 728945-96-8 HCPLUS  
 CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-4-(2-chlorophenyl)-ethanedioate (1:1) (9CI) (CA INDEX NAME)

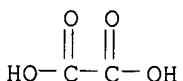
CM 1

CRN 728945-95-7  
 CMF C27 H29 Cl F2 N2 O

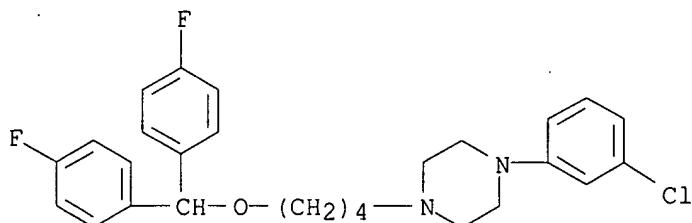


CM 2

CRN 144-62-7  
 CMF C2 H2 O4



RN 728945-97-9 HCPLUS  
 CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-4-(3-chlorophenyl)-(9CI) (CA INDEX NAME)



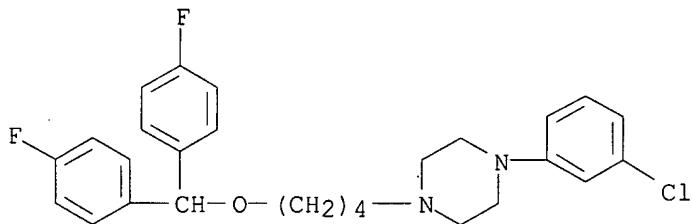
RN 728945-98-0 HCAPLUS

CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-4-(3-chlorophenyl)-, ethanedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 728945-97-9

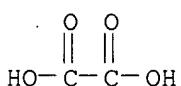
CMF C27 H29 Cl F2 N2 O



CM 2

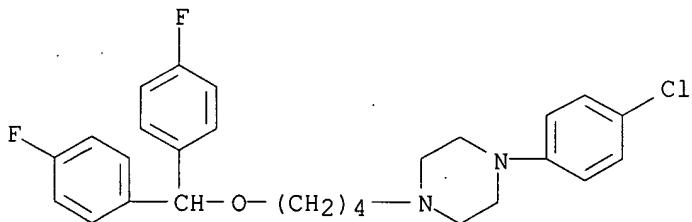
CRN 144-62-7

CMF C2 H2 O4



RN 728945-99-1 HCAPLUS

CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-4-(4-chlorophenyl)-, (9CI) (CA INDEX NAME)



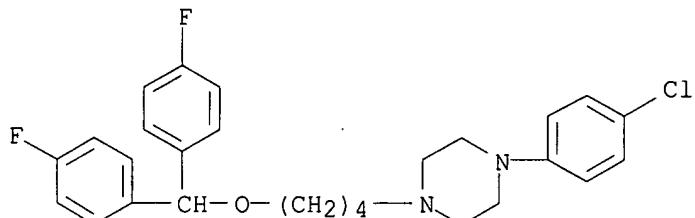
RN 728946-00-7 HCAPLUS

CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-4-(4-chlorophenyl)-, ethanedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 728945-99-1

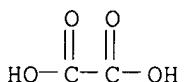
CMF C27 H29 Cl F2 N2 O



CM 2

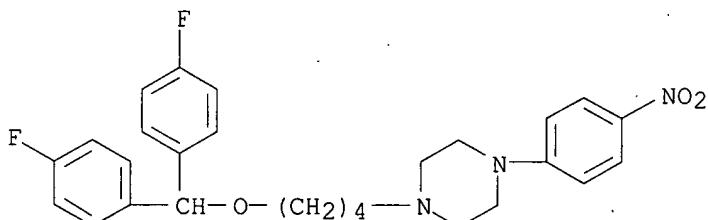
CRN 144-62-7

CMF C2 H2 O4



RN 728946-07-4 HCPLUS

CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-4-(4-nitrophenyl)-, (9CI) (CA INDEX NAME)



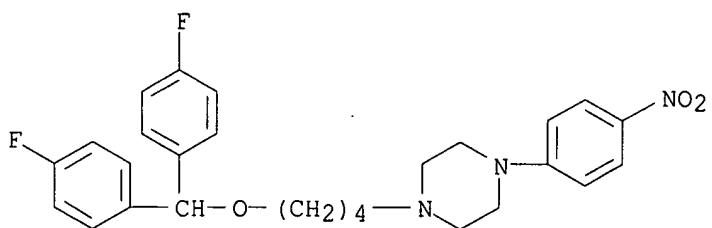
RN 728946-08-5 HCPLUS

CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-4-(4-nitrophenyl)-, ethanedioate (1:1) (9CI) (CA INDEX NAME)

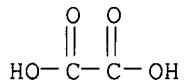
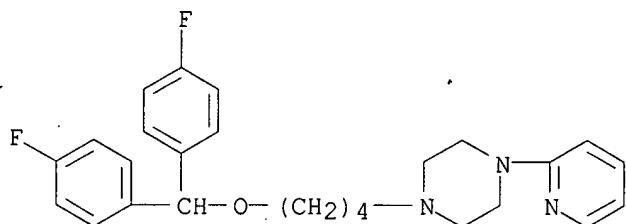
CM 1

CRN 728946-07-4

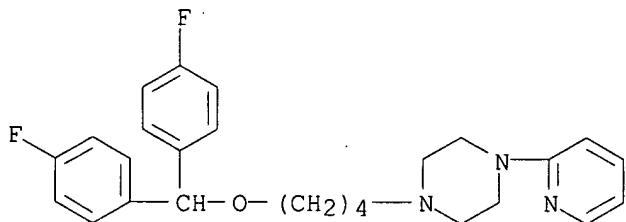
CMF C27 H29 F2 N3 O3



CM 2

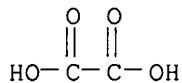
CRN 144-62-7  
CMF C2 H2 O4RN 728946-09-6 HCPLUS  
CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-4-(2-pyridinyl)- (9CI)  
(CA INDEX NAME)RN 728946-10-9 HCPLUS  
CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-4-(2-pyridinyl)-, ethanedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

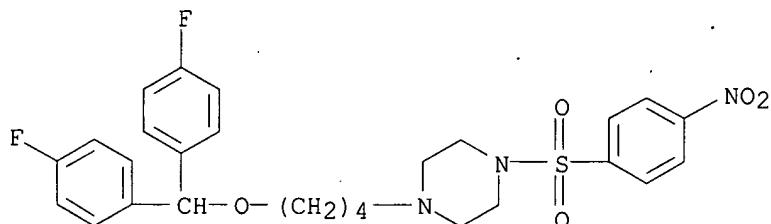
CRN 728946-09-6  
CMF C26 H29 F2 N3 O

CM 2

CRN 144-62-7  
 CMF C2 H2 O4



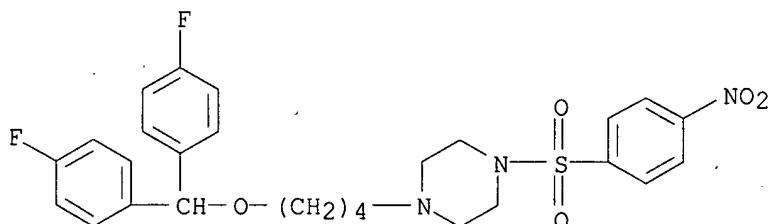
RN 728946-15-4 HCPLUS  
 CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-4-[(4-nitrophenyl)sulfonyl]- (9CI) (CA INDEX NAME)



RN 728946-16-5 HCPLUS  
 CN Piperazine, 1-[4-[bis(4-fluorophenyl)methoxy]butyl]-4-[(4-nitrophenyl)sulfonyl]-, ethanedioate (1:1) (9CI) (CA INDEX NAME)

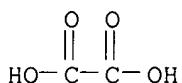
CM 1

CRN 728946-15-4  
 CMF C27 H29 F2 N3 O5 S



CM 2

CRN 144-62-7  
 CMF C2 H2 O4



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(FILE 'HOME' ENTERED AT 07:11:07 ON 07 MAR 2007)  
SET COST OFF

FILE 'HCAPLUS' ENTERED AT 07:11:20 ON 07 MAR 2007  
L1 1 S US20050222166/PN OR US2004-814118#/AP, PRN  
E ELMALEH/AU  
L2 137 S E8-E11  
E SONGWOON/AU  
L3 1 S E4  
E SONG WOON/AU  
L4 2 S E3  
E CHOI/AU  
L5 7 S E3  
E CHOI S/AU  
L6 482 S E3  
L7 93 S E30  
E CHOI SONG/AU  
L8 10 S E3  
E CHOI NAME/AU  
L9 92 S E4  
E SONG/AU  
L10 5 S E3  
E SONG W/AU  
L11 97 S E3, E5  
E SONG NAME/AU  
L12 31 S E4  
E FISHMAN/AU  
L13 20 S E4, E7, E16, E17  
SEL RN L1

FILE 'REGISTRY' ENTERED AT 07:14:21 ON 07 MAR 2007

L14 77 S E1-E77  
L15 STR  
L16 50 S L15  
L17 2681 S L15 FUL  
SAV L17 SACKEY814A/A  
STR L15  
L18 10 S L18 SAM SUB=L17  
L19 162 S L18 FUL SUB=L17  
SAV L20 SACKEY814B/A  
STR L18  
L21 2 S L21 SAM SUB=L20  
L22 16 S L21 FUL SUB=L20  
SAV L23 SACKEY814C/A  
L24 12 S L23 NOT NC3-NCSC3/ES  
L25 4 S L24 NOT 2 3 DIOXO  
L26 3 S L25 NOT C35H36N4O3  
L27 13 S L23 NOT L26  
L28 STR L15  
L29 50 S L28 SAM SUB=L17  
L30 788 S L28 FUL SUB=L17  
SAV L30 SACKEY814D/A  
STR L28  
L31 5 S L31 CSS SAM SUB=L30  
L32 42 S L31 CSS FUL SUB=L30  
SAV L33 SACKEY814E/A  
L34 18 S L33 AND (C31H36F2N2O5 OR C28H30F3N3O4S OR C29H32F2N2O2 OR C27  
L35 24 S L33 NOT L34  
L36 27 S L26, L35

L37 15 S L14 AND L36  
L38 12 S L36 NOT L37

FILE 'HCAOLD' ENTERED AT 07:34:28 ON 07 MAR 2007  
L39 0 S L36

FILE 'HCAPLUS' ENTERED AT 07:34:32 ON 07 MAR 2007  
L40 2 S L36  
L41 2 S L40 AND L1-L13  
E SANG/AU  
L42 2 S E3  
E SANG 2/AU  
E SANG W/AU  
L43 3 S E3  
E SANG WOON/AU  
E SANG NAME/AU  
L44 1 S E4  
E SANGWOON/AU  
E CHOI/AU  
L45 7 S E3  
E CHOI S/AU  
E CHOI SANG/AU  
L46 3 S E3  
E CHOI SANG W/AU  
L47 147 S E3,E4,E7  
E CHOI SANGW/AU  
L48 1 S E6  
L49 1 S L40 AND L42-L48  
L50 2 S L40,L41,L49

FILE 'USPATFULL' ENTERED AT 07:36:46 ON 07 MAR 2007  
L51 1 S L36

FILE 'REGISTRY' ENTERED AT 07:37:00 ON 07 MAR 2007

FILE 'USPATFULL' ENTERED AT 07:37:23 ON 07 MAR 2007

FILE 'HCAPLUS' ENTERED AT 07:37:39 ON 07 MAR 2007

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